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What is claimed is:

1. A voice relaying apparatus comprising:

a receiving section receiving a cell from a network;

a cell disassembling section disassembling the
5 cell received by said receiving section into a voice signal;

a detecting section detecting whether or not a relay switch operation is being carried out;

a cell assembling section assembling the voice
10 signal from said cell disassembling section into a cell if said detecting section detects that the relay switch operation is being carried out; and

a transmitting section transmitting the cell assembled by said cell assembling section to the
15 network.

2. A voice relaying apparatus according to Claim 1, further comprising:

an identification signal adding section adding
an identification signal to the voice signal from
5 said cell disassembling section to send to a switch,

wherein said detecting section detects that the relay switch operation is being carried out if said voice signal to which the identification signal is added is received from said switch.

3. A voice relaying apparatus according to Claim 2, further comprising:

an address adding section changing a destination address of the cell assembled by said cell assembling section when the detection result of said detecting section indicates that the relay switch operation is being carried out.

4. A voice relaying apparatus comprising:

a receiving section receiving a cell from an asynchronous transfer mode (ATM) network and demultiplexing the cell into a signaling cell and a voice cell;

a plurality of cell assembling/disassembling units, each of which receives the signaling cell and the voice cell from said receiving section, and each of which includes:

a cell disassembling section disassembling the voice cell from said receiving section into a voice signal and disassembling the signaling cell from said receiving section into a first signaling signal;

a detecting section detecting whether or not a relay switch operation is being carried out;

a cell assembling section assembling the voice signal from said cell disassembling section into a voice cell, and producing a signaling cell

20 based on the first signaling signal from said
receiving section; and

a transmitting section transmitting, to the ATM
network, a cell produced by multiplexing the
signaling cell and the voice cell which are assembled
25 by each of said plurality of cell
assembling/disassembling units.

5. A voice relaying apparatus according to Claim 4,
wherein each of said plurality of cell
assembling/disassembling units further comprises:

an identification signal adding section adding an
5 identification signal to the voice signal from said
cell disassembling section to produce a first voice
signal and sending the first voice signal to a
switch; and

wherein said detecting section detects that the
10 relay switch operation is being carried out when the
first voice signal is received from said switch.

6. A voice relaying apparatus according to Claim 5,
wherein said identification signal is composed of
a synchronous signal representing each of said
plurality of cell assembling/disassembling units.

7. A voice relaying apparatus according to Claim 6,
wherein said identification signal adding section

includes:

a decoder decoding the voice signal from said
5 cell disassembling section to generate a first PCM
voice signal;

an identification signal generator generating the
identification signal; and

a multiplexer adding the identification signal
10 generated by said identification signal generator to
the first PCM voice signal decoded by said decoder to
produce said first voice signal, and sending the
first voice signal to said switch.

8. A voice relaying apparatus according to Claim 7,
further comprises:

a multiplexing section multiplexing the first
signaling signal and the first voice signal which are
5 supplied from each of said plurality of cell
assembling/disassembling units, to send to said
switch.

9. A voice relaying apparatus according to Claim 8,
wherein said multiplexing section includes a
demultiplexer de-multiplexing a signal from said
switch, into a second signaling signal and a second
5 voice signal, to send to each of said plurality of
cell assembling/disassembling units, and

wherein said detecting section detects that the

relay switch operation is being carried out when the second voice signal from said multiplexing section
10 includes the identification signal.

10. A voice relaying apparatus according to Claim 9,
wherein said cell disassembling section
disassembles the voice cell from said receiving
section to generate a low-bit-rate coding voice
5 signal, and

wherein said cell assembling section includes:
a coder for encoding a second PCM voice signal
included in the second voice signal from said
demultiplexer, into a low-bit-rate coding voice
10 signal;

a selecting section selecting the low-bit-rate
coding voice signal from the coder or the low-bit-
rate coding voice signal from said cell disassembling
section, in accordance with the detection result of
15 said detecting section;

a first cell assembling section assembling the
second signaling signal from said demultiplexer, into
a signaling cell to send to said receiving section;
and

20 a second cell assembling section assembling the
low-bit-rate coding voice signal selected from said
selecting section, into a voice cell to send to said
receiving section.

11. A voice relaying apparatus according to Claim 10,
wherein said cell assembling section includes an
address adding section changing a destination address
of the voice cell assembled by said second cell
5 assembling section, when the detection result of said
detecting section indicates that the relay switch
operation is being carried out.

12. A voice relaying apparatus according to Claim 11,
wherein said receiving section includes a multiplexer
multiplexing the signaling cell and the voice cell
from each of said plurality of cell
5 assembling/disassembling units, to send to said ATM
network.

13. A voice relaying method comprising:

(a) receiving a cell from an asynchronous
transfer mode (ATM) network and de-multiplexing the
cell into a signaling cell and a voice cell;

5 (b) disassembling said voice cell into a voice
signal and disassembling said signaling cell into a
first signaling signal;

(c) detecting whether or not a relay switch
operation is being carried out;

10 (d) assembling said voice signal into a voice
cell, and producing a signaling cell based on said
first signaling signal; and

(e) transmitting, to the ATM network, a cell produced by multiplexing said signaling cell and said
15 voice cell which are assembled at said step (d).

14. A voice relaying method according to Claim 13,
wherein said step (b) includes adding an
identification signal to said voice signal to produce
a first voice signal and sending the first voice
5 signal to a switch; and

wherein in said step (c), detecting that the
relay switch operation is being carried out when said
first voice signal is received from said switch.

15. A voice relaying method according to Claim 14,
wherein said identification signal is composed of a
synchronous signal.

16. A voice relaying method according to Claim 15,
wherein said step (b) includes:

(f) decoding said voice signal to generate a
first PCM voice signal;

5 (g) generating said identification signal; and

(h) adding said generated identification signal
to said first PCM voice signal to produce said first
voice signal, to send to said switch.

17. A voice relaying method according to Claim 16,

further comprising:

(i) multiplexing said first signaling signal
obtained at said step (b) and said first voice signal
5 obtained at said step (h), to send to said switch.

18. A voice relaying method according to Claim 17,
further comprising:

(j) de-multiplexing a signal from said switch,
into a second signaling signal and a second voice
5 signal,

wherein in said step (c), detecting that said
relay switch operation is being carried out when the
second voice signal obtained at said step (j)
includes the identification signal.

19. A voice relaying method according to Claim 18,
Wherein in said step (b), disassembling said voice
cell to generate a low-bit-rate coding voice signal;
and

5 wherein said step (d) includes:

(k) encoding a second PCM voice signal included in
said second voice signal obtained at said step (j)
into the low-bit-rate coding voice signal;

(l) selecting said generated low-bit-rate coding
10 voice signal or said encoded low-bit-rate coding
voice signal, in accordance with the detection result
at said step (c);

(m) assembling said second signaling signal
obtained at said step (j) into a signaling cell; and

15 (n) assembling the low-bit-rate coding voice
signal obtained at step (l), into a voice cell.

20. A voice relaying method according to Claim 19,
wherein said step (d) includes:

(o) changing a destination address of the voice
cell assembled at said step (n), in accordance with
5 the detection result at step (c).

21. A voice relaying method according to Claim 20,
wherein said step (e) includes:

multiplexing the signaling cell obtained at said step
(m) and the voice cell obtained at said step (n), to
5 send to said ATM network.